WHAT IS CLAIMED IS:

1. A process for producing an organic-inorganic hybrid glassy material, characterized in that the process comprises at least the three steps of producing a gel body by a sol-gel method; melting by heating; and aging.

2. A process for producing an organic-inorganic hybrid glassy material as claimed in claim 1, characterized in that a structure of the gel body contains a metal unit having an organic functional group.

3. A process for producing an organic-inorganic hybrid glassy material as claimed in claim 1 or 2, characterized in that at least one kind of a sol-gel raw material containing a phenyl group is used.

4. A process for producing an organic-inorganic hybrid glassy material as claimed in one of claims 1 to 3, characterized in that the melting step by heating is treated at a temperature of from 30°C to 400°C.

5. A process for producing an organic-inorganic hybrid glassy material as claimed in one of claims 1 to 4, characterized in that the aging step is treated at a temperature of from 30°C to 400°C for a period of time of 5 minutes or longer.

6. An organic-inorganic hybrid glassy material produced by a process as claimed in one of claims 1 to 5.

7. An organic-inorganic hybrid glassy material as claimed in claim 6, characterized in that a random network structure is contained in a part or entirety of the glassy material.

8. An organic-inorganic hybrid glassy material as claimed in claim 6 or 7, characterized in that the organic-inorganic hybrid glassy material has a

softening temperature of 400°C or lower.

9. An organic-inorganic hybrid glassy material as claimed in one of claims 6 to 8, characterized in that the organic-inorganic hybrid glassy material contains a phenyl group.

10. An organic-inorganic hybrid glassy material obtained by melting a gel body formed by a sol-gel method, characterized in that the organic-inorganic hybrid glassy material is obtained by an aging in an aging step after a melting step and contains at least one kind of a substance represented by $R_nSiO_{(4-n)/2}$ (wherein R represents an organic functional group, and n represents a number of from 1 to 3).

11. An organic-inorganic hybrid glassy material obtained by melting a gel body formed by a sol-gel method, characterized in that the organic-inorganic hybrid glassy material is obtained by an aging in an aging step after a melting step and contains at least one kind of a substance represented by $MO\text{-}RSiO_{3/2}$ or $MO\text{-}R_2SiO$ (wherein R represents an organic functional group, and M represents a divalent metal), and M being at least one kind selected from Mg, Ca, Sr, Ba and Sn.

12. An organic-inorganic hybrid glassy material as claimed in claim 10 or 11, characterized in that the organic-inorganic hybrid glassy material contains an oxide of at least one of Nb, Zr and Ti.

13. An organic-inorganic hybrid glassy material as claimed in claim 10 or 11, characterized in that the organic-inorganic hybrid glassy material contains at least one of transition metal ions of V, Cr, Mn, Fe, Co, Ni, Cu and Zn.

14. An organic-inorganic hybrid glassy material as claimed in claim 10 or 11, characterized in that the organic-inorganic hybrid glassy material contains

at least one of rare earth metal ions of Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er and Tm.

15. An organic-inorganic hybrid glassy material as claimed in claim 10 or 11, characterized in that the organic-inorganic hybrid glassy material contains an organic colorant.

16. An organic-inorganic hybrid glassy material as claimed in one of claims 10 to 15, characterized in that a softening temperature is changed by conducting the aging.

17. An organic-inorganic hybrid glassy material as claimed in one of claims 10 to 16, characterized in that the organic-inorganic hybrid glassy material exhibits an airtight property with no exudation of an organic colorant for one month.

18. An organic-inorganic hybrid glassy material as claimed in one of claims 10 to 17, characterized in that the organic-inorganic hybrid glassy material contains a phenyl group.

19. An organic-inorganic hybrid glassy material, characterized in that the organic-inorganic hybrid glassy material is free of lead, contains mainly silica, and has a softening temperature of 300°C or lower.

20. An organic-inorganic hybrid glassy material as claimed in claim 19, characterized in that at least one kind selected from Li, Na, K, B, P, Zr, Ta, Ge and Sn has been added to the organic-inorganic hybrid glassy material.

21. An organic-inorganic hybrid glassy material as claimed in claim 19 or 20, characterized in that the organic-inorganic hybrid glassy material contains a metal unit having an organic functional group.

22. An organic-inorganic hybrid glassy material as claimed in one of claims 19 to 21, characterized in that the organic-inorganic hybrid glassy material is produced by a sol-gel method and/or a non-aqueous acid-base reaction method.

23. In a case of producing an organic-inorganic hybrid glassy material, a process for producing an organic-inorganic hybrid glassy material, characterized in that a gel body produced by a sol-gel method and a substance obtained by an non-aqueous acid-base reaction method are mixed together, followed by a melting by heating and then an aging.

24. A process for producing an organic-inorganic hybrid glassy material as claimed in claim 23, characterized in that the gel body produced by the sol-gel method contains $RSiO_{3/2}$ or R_2SiO (wherein R represents an organic functional group).

25. A process for producing an organic-inorganic hybrid glassy material as claimed in claim 23 or 24, characterized in that the substance obtained by the non-aqueous acid-base reaction method contains R_2SiO, P_2O_5 and SnO.

26. A process for producing an organic-inorganic hybrid glassy material as claimed in one of claims 23 to 25, characterized in that the melting step by heating is treated at a temperature of from 30°C to 400°C.

27. A process for producing a glassy low-melting-point material as claimed in one of claims 23 to 26, characterized in that the aging step is treated at a temperature of from 30°C to 400°C for a period of time of 5 minutes or longer.

28. An organic-inorganic hybrid glassy material produced by a process as claimed in one of claims 23 to 27.

29. An organic-inorganic hybrid glassy material as claimed in claim 28, characterized in that a random network structure is contained in a part or entirety of the organic-inorganic hybrid glassy material.